

WHAT IS CLAIMED IS:

1. A method of producing ethyl alcohol or an aqueous-alcoholic solution comprising;

5 crushing soybeans to produce starch-containing raw material;
squeezing said raw material to produce mash;
filtering the mash to obtain okara and soymilk;
fermenting the okara; and
distilling alcohol from the fermented okara.

10 2. The method of Claim 1, additionally comprising adding bee's wax to the distilled alcohol to at least partially remove fusel oil therefrom.

3. The method of claim 1, wherein, prior to fermenting, the okara is mixed with water to create a mixture.

4. The method of Claim 3, wherein the water is activated on a membranous electrolyser with a positive redox-potential (+900- + 1200) mV at pH 1.0-2.0.

15 5. The method of claim 3, wherein the mixture is processed at a temperature of 100-120°C for not less than 30 minutes to produce a soft-cooked mass.

6. The method of claim 4, wherein the soft-cooked mass is saccharized by enzymes from barley malt mash.

20 7. The method of claim 1, wherein soy flour produced from germinated soybeans, is added to the soybeans in a ratio in the range from about 1:10 to about 10:1 by mass.

8. The method of claim 1, wherein the mash is fermented using yeast at a temperature of 23-25°C to produce a fermented mash .

25 9. The method of claim 7, wherein the fermented mash is distilled to obtain three fractions of raw alcohol (spirit): the first fraction comprising 80-83 % spirit, the second fraction comprising 70-79 % spirit and the third fraction comprising 40-59 % spirit.

10. The method of claim 8, wherein purification of each of fractions 1, 2 and 3 is performed separately.

30 11. The method of claim 10, wherein the fractions are distilled to a final alcohol content of 95-96 % alcohol.

12. The method of claim 2, wherein the soybeans are processed prior to use by a growth stimulator not less than 3 hours before germination.

13. The method of claim 12, wherein the growth stimulator is electro-water activated on a membranous electrolyser with negative redox-potential (-500- 900} mV at pH 9.0-11.0.

14. The method of claim 13, wherein the electro-activated water is added in an amount of not less than 50% to the total mass of soybeans.

15. The method of claim 9, wherein dry soy milk or dry cow milk whey is added to the raw spirit of fractions 1, 2 and 3 in the amount of 0.5-5.0 kg per 1000 liters spirit, prior to purification of each fraction.

16. The method of claim 15, wherein each fraction is mixed and maintained for not less than 3 hours prior to filtration.

17. The method of claim 1, wherein soy milk whey is added to the mash in the ratio of no more than 10:1 by mass prior to fermentation.

18. The method of claim 9, wherein the raw spirit of fractions 1, 2 and 3 is warmed to 60-70°C.

19. The method of claim 18, wherein bee's wax, which was previously melted at 60-70°C is added to the raw spirit of fraction 1, 2, and 3.

20. The method of claim 19, wherein the bee's wax and raw spirit of each fraction, respectively, are mixed for not less than 30 minutes and then cooled to room temperature.

21. The method of claim 19, wherein the bee's wax is removed following hardening of the bee's wax and the raw spirit is filtered.

22. A method of making an aqueous alcohol solution comprising mixing the ethyl alcohol of claim 1 with an electro-activated water/salt solution activated on a membranous electrolyser with a negative redox-potential (-500-900) mV and pH 9.0-11.0, wherein the ethyl alcohol and water/salt solution mixture is 40% alcohol.

23. The method of claim 22, wherein the electro-activated water/salt solution is a mixture of the following salts: NaCl, KCl, CaCl₂, and MgCl₂.

24. The method of claim 23, wherein the salts NaCl, KCl, CaCl₂, and MgCl₂ are used in a ratio of 80:2:2:1, respectively, with the total salt concentration being no more than 10 g/liter.

5 25. The method of Claim 1, wherein the fermented okara is purified prior to distillation.

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